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| 10/828,793 | 04/20/2004 | Edwin C. Iliff | ILIFF.015A6D1 | 5083 |

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| EXAMINER | |
| ZHOU, SHUBO | |

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| ART UNIT | PAPER NUMBER |
| 1631 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/828,793

Applicant(s)

ILIFF, EDWIN C.

Examiner

Shubo (Joe) Zhou

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/21/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-18 and 20-34 is/are pending in the application.
- 4a) Of the above claim(s) 9, 15 and 22-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8, 10-14, 16-18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 9/18/07
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's amendments and request for reconsideration filed 11/21/07 are acknowledged and the amendments are entered.

Claims 6-18 and 20-34 are currently pending, and claims 6-8, 10-14, 16-18 and 20-21 are under examination. Claims 9, 15 and 22-34 have been previously withdrawn from further consideration.

Applicant's arguments filed 11/21/07 in response to the previous Office action mailed 6/21/07 have been fully considered but they are not deemed to be fully persuasive. The following rejections and/or objections are either reiterated from the previous Office action or newly applied but necessitated by applicant's amendments, and constitute the complete set presently being applied to the instant application. Rejections and/or objections set forth in the previous Office action but not reiterated herein are hereby withdrawn either in view of the amendments filed 11/21/07 or in view of applicant's arguments.

Claim Rejections-35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 6-8, 10-14, 16-18 and 20-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn to a system comprising various objects, wherein each object has corresponding data and processes, and wherein the data is encapsulated.

The specification in paragraph [0067] states:

This section describes a new diagnostic paradigm that uses software objects to establish a broad, generalized software environment for medical diagnosis, which is used to define and develop the programming elements of medical diagnosis. The objects are then used to guide and control the diagnostic process, to conduct the patient interview, to perform related analytical tasks, and to generate the diagnoses. A software object is a fundamental software structure that can be used to organize the processes and data of a computer program in such a way as to make possible very complicated applications. This description will discuss novel uses of object oriented programming (OOP) in medical diagnosis, such as the use of software objects for the purpose of fully automated medical diagnosis

It thus appears apparent from the above descriptions that an object is not a physical object but rather a combination of data and processes or a software, and the system comprising a plurality of objects is a software environment or a data structure. However, a computer program, per se, i.e. the software, and data structure, albeit being functional descriptive material, are nonstatutory if not recorded on a computer readable medium. See MPEP 2106.01 [R-6]. In the instant case, the claims recites no computer readable medium or other physical structure where the software or data structure is recorded or stored.

As to the phrases “encapsulated” and “engine” recited in the claims, the specification in paragraph [0066] states:

The data are said to be "encapsulated," meaning that they are hidden, so that a user of the object only sees processes that can be invoked. Using an object's processes, one can then manipulate the data without having to know the exact location and format of the data. When more than one copy of the object is required, one can make copies of the data, but use the same process set to manipulate each of the copies as needed. This set of

processes can then be thought of as an "engine" that controls or represents the objects' behavior, whether there are 10 or 10,000 object copies.

Considering that the words encapsulated and engine are put in quotation markers and given the context thereof, it is clear that it is not meant that the data are physically encapsulated and engine is not a physical engine but rather "thought of as an engine." Again, this fits the examiner's interpretation above that the claims appear to be drawn to data structure only without being on a computer readable medium or other physical structure.

Therefore, the claims are drawn to nonstatutory subject matter.

Applicant's arguments filed 11/21/07 have been fully considered but they are unpersuasive.

Applicant cites the MPEP section 2106.01(I) and argues that when a computer program is recited in conjunction with a physical structure, such as a computer memory, the USPTO personnel should treat the claim as a product claim. See page 8 of the response filed 11/21/07. This is unpersuasive because "a physical structure, such as a computer memory" or any other physical structure is not recited in the claims. The claims, e.g. claim 6, are drawn to a system comprising multiple objects, which are combinations of data and processes based on the description in the specification as set forth above.

Applicant further cites the MPEP and the USPTO's Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility and argues that a claimed invention may be a combination of devices that appear to be directed to a machine and one or more steps of the functions performed by the machine, and an apparatus claim with process steps is not

classified as a hybrid claims, etc. See page 9 of the response. This is not found persuasive because none of the claims recite a physical device or apparatus comprised in the claimed system.

Applicant refers to the interview conducted with SPE Marjorie Moran on 9/18/07, but as indicated in the Interview Summary attached herein, examiner Moran only agreed that claim 19 describes a data structure, which is different from claim 6 drawn to data objects. Nevertheless, as indicated in the MPEP 2106.01 [R-6], "when functional descriptive material is recorded on some computer readable medium, it ... will be statutory in most cases ...," the rejection could be overcome if it is so amended. However, applicant is cautioned against introducing new matter in claim amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6-8, 10-14, 16-18, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff, E. C. (IDS document: US 5,935,060, Aug. 10, 1999) in view of Akers et al. (US 2004/0017475 A1).

The claims are drawn to a system comprising various objects selected from disease object, symptom object, valuator object, question object, node object, and candidate object, wherein each object has corresponding data and processes, and wherein the data is encapsulated.

Iliff discloses a medical diagnosis computer system comprising various data and scripts and software for using the system and the data for diagnosis. See at least the Abstract. The combination of data and scripts for manipulating the data is interpreted as reading on the "object" recited in the instant claims.

With regard to claims 6-7, the system of Iliff comprises at least a plurality of disease objects and a plurality of symptom objects. See at least Fig. 3B and Fig. 10, and columns 1-3. Further, in the system of Iliff, the script engine will execute an individual script which is linked to specific data. Thus, each object is only to see the script of another object, not the data.

With regard to claim 8, the system of Iliff comprises a "diagnostic script engine," which is interpreted to be the engine object recited in the claim. See at least Fig. 1B, and columns 1-3.

With regard to claim 10, the objects in the system of Iliff are arranged in a hierarchical relationship so that the result of one is the input of another. See at least Fig. 2, and columns 1-3.

With regard to claim 11, the system of Iliff comprises, in addition to the disease and symptom objects as in claims 6-7 above, also comprises question object, node object, valuator object and candidate objects. See at least Figures 7-15, and columns 1-3.

With regard to claims 12-14, and 18, the system of Iliff comprises symptom, valuator and node objects, where symptom object invokes valuator object, which in turn invokes the question object, which then invokes the node object. See at least Fig. 4b and columns 1-3.

With regard to claims 16 and 17, Iliff discloses that a particular disease is associated with geographic information and diseases in a population and the frequencies therein. The system also comprises data and scripts for a plurality different diseases sharing common symptoms, such as “fever” shared by appendicitis, intestinal flu, food poisoning, and malaria. See at least column 8.

With regard to claim 20, Fig. 3B of Iliff shows that one disease object, e.g. disease object A, asks questions, and depending on the answers, the diagnostic process could stay on object A or goes to disease object B, which in turn asks questions, and again, depending on answers, it could to the next disease object, until finally, it may go to the last disease object X. Thus, disease object X is an object that monitors the questions and answers of the other disease objects.

With regard to claim 21, the system of Iliff comprises a script engine that coordinates all the entire process of diagnosis because it controls all the scripts. See at least columns 18-19.

However, Iliff does not disclose that the data in the objects are encapsulated so that they cannot be seen by a user.

Akers et al. disclose an apparatus and method for computerized multi-media data including medical data such as medical record data files organization and transmission. Akers et

al. stress the importance of keeping the integrity of data files and mechanisms of preventing data from being modified by a user. Akers et al. state that "medical diagnostic data, physician comment data, and other suitable data can be encapsulated such that any attempt to alter or modify the data will be prevented or detected." See paragraph [0096]. Akers et al. further state that "[r]ecord encapsulation system ... can encapsulate an entire medical data file for a patient so as to maintain the integrity of the entire medical record data filed ... In one exemplary embodiment, record encapsulation system ... includes encryption algorithms that generate a vale based upon the exact data structure of the entire medical record data file such that any modifications to the medical record data file can be detected." See paragraph [0107].

Thus, Akers et al. not only teach the importance of keeping data encapsulated or hidden but also provide detailed systems and algorithms for doing that. One having ordinary skill in the art at the time of the instant invention was made would have been motivated by Akers et al. to modify the system of Iliff so that the data would be encapsulated and hidden to a user to keep the data from being modified by a user. There would also be a reasonable expectation for success as Akers et al. provide the detailed system and algorithm for the encapsulation.

Provisional Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 6-8, 10-14, 16-18, and 20-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6-8, 20-30 and 49-50 of US copending Application No. 09/785,044.

This rejection is reiterated from the previous Office action. Applicant does not argue against the rejection but states that s since the claims in the copending application has not been allowed, applicant defers action on this item until the claims of the copending application are allowed. The rejection is hence retained for the same reasons set forth in the previous Office action.

Claims 6-8, 10-14, 16-18, and 20-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of US 6,527,713 B2, Mar. 4, 2003 in view of Akers et al. (US 2004/0017475 A1).

Claims 1-14 of US 6,527,713 are drawn to a method and a system comprising different objects as those recited in the instant claims. However, claims 1-14 of US 6,527,713 do not recite that the data are encapsulated.

As set forth above, Akers et al. disclose an apparatus and method for computerized multimedia data including medical data such as medical record data files organization and transmission. Akers et al. stress the importance of keeping the integrity of data files and mechanisms of preventing data from being modified by a user. Akers et al. state that "medical diagnostic data, physician comment data, and other suitable data can be encapsulated such that any attempt to alter or modify the data will be prevented or detected." See paragraph [0096]. Akers et al. further state that "[r]ecord encapsulation system ... can encapsulate an entire medical

data file for a patient so as to maintain the integrity of the entire medical record data filed ... In one exemplary embodiment, record encapsulation system ... includes encryption algorithms that generate a vale based upon the exact data structure of the entire medical record data file such that any modifications to the medical record data file can be detected." See paragraph [0107].

Thus, Akers et al. not only teach the importance of keeping data encapsulated or hidden but also provide detailed systems and algorithms for doing that. One having ordinary skill in the art at the time of the instant invention was made would have been motivated by Akers et al. to modify the system and method of claims 1-14 of US 6,527,713 so that the data would be encapsulated and hidden to a user to keep the data from being modified by a user. There would also be a reasonable expectation for success as Akers et al. provide the detailed system and algorithm for the encapsulation.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shubo (Joe) Zhou, whose telephone number is 571-272-0724. The examiner can normally be reached Monday-Friday from 8 A.M. to 4 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran, can be reached on 571-272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the

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/Shubo (Joe) Zhou/

Shubo (Joe) Zhou, Ph.D.
Primary Patent Examiner